

# PATENT COOPERATION TREATY

**PCT**

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
US Department of Commerce  
United States Patent and Trademark  
Office, PCT  
2011 South Clark Place Room  
CP2/5C24  
Arlington, VA 22202  
ETATS-UNIS D'AMERIQUE  
in its capacity as elected Office

Date of mailing: 15 March 2001 (15.03.01)	
International application No.: PCT/KR00/01014	Applicant's or agent's file reference: 2000PCT360
International filing date: 06 September 2000 (06.09.00)	Priority date: 06 September 1999 (06.09.99)
Applicant: BAE, Shin-Young	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International preliminary Examining Authority on:  
18 October 2000 (18.10.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer:</p> <p>J. Zahra</p> <p>Telephone No.: (41-22) 338.83.38</p>
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# PCT COOPERATION TREATY

**PCT**

## NOTIFICATION RELATING TO PRIORITY CLAIM

(PCT Rules 26bis.1 and 26bis.2 and Administrative Instructions, Sections 402 and 409)

From the INTERNATIONAL BUREAU

To:

KIM, Young-Hwa  
Rm 101  
Hwain Bldg.  
824-29 Yeoksam-dong  
Kangnam-ku  
Seoul 135-080  
RÉPUBLIQUE DE CORÉE

Date of mailing (day/month/year) 19 January 2001 (19.01.01)	
Applicant's or agent's file reference 2000PCT360	<b>IMPORTANT NOTIFICATION</b>
International application No. PCT/KR00/01014	International filing date (day/month/year) 06 September 2000 (06.09.00)
Applicant IPLASTIC CO., LTD. et al	

The applicant is hereby **notified** of the following in respect of the priority claim(s) made in the international application.

1. ☒ **Correction of priority claim.** In accordance with the applicant's notice received on: 27 December 2000 (27.12.00), the following priority claim has been corrected to read as follows:  

KR 06 September 1999 (06.09.99) UM 1999-0018866

☐ even though the indication of the number of the earlier application is missing.  
☐ even though the following indication in the priority claim is not the same as the corresponding indication appearing in the priority document:
  
2. ☐ **Addition of priority claim.** In accordance with the applicant's notice received on: , the following priority claim has been added:  

☐ even though the indication of the number of the earlier application is missing.  
☐ even though the following indication in the priority claim is not the same as the corresponding indication appearing in the priority document:
  
3. ☐ As a result of the correction and/or addition of (a) priority claim(s) under items 1 and/or 2, the (earliest) priority date is:
  
4. ☐ **Priority claim considered not to have been made.**

☐ The applicant failed to respond to the invitation under Rule 26bis.2(a) (Form PCT/IB/316) within the prescribed time limit.  
☐ The applicant's notice was received after the expiration of the prescribed time limit under Rule 26bis.1(a).  
☐ The applicant's notice failed to correct the priority claim so as to comply with the requirements of Rule 4.10.

The applicant may, before the technical preparations for international publication have been completed and subject to the payment of a fee, request the International Bureau to publish, together with the international application, information concerning the priority claim. See Rule 26bis.2(c) and the PCT Applicant's Guide, Volume I, Annex B2(1B).
  
5. ☒ In case where **multiple priorities** have been claimed, the above item(s) relate to the following priority claim(s):  

KR 06 September 1999 (06.09.99) UM 1999-0018866
  
6. A copy of this notification has been sent to the receiving Office and
 

☐ to the International Searching Authority (where the international search report has not yet been issued).  
☒ the designated Offices (which have already been notified of the receipt of the record copy).

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  <div style="text-align: center;">R. Chrem</div>
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

# PCT

## REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty

For receiving Office use only

International Application No. \_\_\_\_\_

International Filing Date: \_\_\_\_\_

Name of receiving Office and "PCT International Application" \_\_\_\_\_

Applicant's or agent's file reference  
(if desired) (12 characters maximum)

2000PCT360

Box No. I TITLE OF INVENTION

BOTTLE CAP

Box No. II APPLICANT

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State(that is, country) of residence if no State of residence is indicated below.)

IPLASTIC CO.,LTD  
79-74 2F, SANBON-DONG,  
KUNPO-SI, KYOUGKI-DO, 435-040  
REPUBLIC OF KOREA

☐ This person is also inventor.

Telephone No.:  
(82 343) 393-5378

Facsimile No.:  
(82 343) 399-2072

Teleprinter No.: \_\_\_\_\_

State(that is, country) of nationality

KR

State(that is, country) of residence

KR

This person is applicant for the purposes of:

☐

all designated States

☒

all designated States except the United States of America

☐

the United States of America only

☐

the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State(that is, country) of residence if no State of residence is indicated below.)

BAE, Shin-Young  
79-74 2F, SANBON-DONG,  
KUNPO-SI, KYOUGKI-DO, 435-040  
REPUBLIC OF KOREA

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only(if this check-box is unred, do not fill in below)

State(that is, country) of nationality

KR

State(that is, country) of residence

KR

This person is applicant for the purposes of:

☐

all designated States

☐

all designated States except the United States of America

☒

the United States of America only

☐

the States indicated in the Supplemental Box

☐ Further applicants are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒

agent

☐

common representative

Name and address: (Family name followed by given name; for a legal entity full official designation. The address must include postal code and name of country.)

KIM, Young-Hwa  
RM 101 HWAIN BLDG. 824-29 YEOKSAM-DONG, KANGNAM-KU,  
SEOUL, 135-080, REPUBLIC OF KOREA

Telephone No.:  
(82 2) 562-4774/6

Facsimile No.:  
(82 2) 563-1188

Teleprinter No.: \_\_\_\_\_

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. V DESIGNATION OF STATES

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

Regional Patent

- ☒ AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova; RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ EP European Patent: AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> AE United Arab Emirates                  | <input checked="" type="checkbox"/> LC Saint Lucia                               |
| <input checked="" type="checkbox"/> AG Antigua and Barbuda                   | <input checked="" type="checkbox"/> LK Sri Lanka                                 |
| <input checked="" type="checkbox"/> AL Albania                               | <input checked="" type="checkbox"/> LR Liberia                                   |
| <input checked="" type="checkbox"/> AM Armenia                               | <input checked="" type="checkbox"/> LS Lesotho                                   |
| <input checked="" type="checkbox"/> AT Austria                               | <input checked="" type="checkbox"/> LT Lithuania                                 |
| <input checked="" type="checkbox"/> AU Australia                             | <input checked="" type="checkbox"/> LU Luxembourg                                |
| <input checked="" type="checkbox"/> AZ Azerbaijan                            | <input checked="" type="checkbox"/> LV Latvia                                    |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina                | <input checked="" type="checkbox"/> MA Morocco                                   |
| <input checked="" type="checkbox"/> BB Barbados                              | <input checked="" type="checkbox"/> MD Republic of Moldova                       |
| <input checked="" type="checkbox"/> BG Bulgaria                              | <input checked="" type="checkbox"/> MG Madagascar                                |
| <input checked="" type="checkbox"/> BR Brazil                                | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input checked="" type="checkbox"/> BY Belarus                               | <input checked="" type="checkbox"/> MN Mongolia                                  |
| <input checked="" type="checkbox"/> BZ Belize                                | <input checked="" type="checkbox"/> MW Malawi                                    |
| <input checked="" type="checkbox"/> CA Canada                                | <input checked="" type="checkbox"/> MX Mexico                                    |
| <input checked="" type="checkbox"/> CH and LI Switzerland and Liechtenstein  | <input checked="" type="checkbox"/> MZ Mozambique                                |
| <input checked="" type="checkbox"/> CN China                                 | <input checked="" type="checkbox"/> NO Norway                                    |
| <input checked="" type="checkbox"/> CR Costa Rica                            | <input checked="" type="checkbox"/> NZ New Zealand                               |
| <input checked="" type="checkbox"/> CU Cuba                                  | <input checked="" type="checkbox"/> PL Poland                                    |
| <input checked="" type="checkbox"/> CZ Czech Republic                        | <input checked="" type="checkbox"/> PT Portugal                                  |
| <input checked="" type="checkbox"/> DE Germany                               | <input checked="" type="checkbox"/> RO Romania                                   |
| <input checked="" type="checkbox"/> DK Denmark                               | <input checked="" type="checkbox"/> RU Russian Federation                        |
| <input checked="" type="checkbox"/> DM Dominica                              | <input checked="" type="checkbox"/> SD Sudan                                     |
| <input checked="" type="checkbox"/> DZ Algeria                               | <input checked="" type="checkbox"/> SE Sweden                                    |
| <input checked="" type="checkbox"/> EE Estonia                               | <input checked="" type="checkbox"/> SG Singapore                                 |
| <input checked="" type="checkbox"/> ES Spain                                 | <input checked="" type="checkbox"/> SI Slovenia                                  |
| <input checked="" type="checkbox"/> FI Finland                               | <input checked="" type="checkbox"/> SK Slovakia                                  |
| <input checked="" type="checkbox"/> GB United Kingdom                        | <input checked="" type="checkbox"/> SL Sierra Leone                              |
| <input checked="" type="checkbox"/> GD Grenada                               | <input checked="" type="checkbox"/> TJ Tajikistan                                |
| <input checked="" type="checkbox"/> GE Georgia                               | <input checked="" type="checkbox"/> TM Turkmenistan                              |
| <input checked="" type="checkbox"/> GH Ghana                                 | <input checked="" type="checkbox"/> TR Turkey                                    |
| <input checked="" type="checkbox"/> GM Gambia                                | <input checked="" type="checkbox"/> TT Trinidad and Tobago                       |
| <input checked="" type="checkbox"/> HR Croatia                               | <input checked="" type="checkbox"/> TZ United Republic of Tanzania               |
| <input checked="" type="checkbox"/> HU Hungary                               | <input checked="" type="checkbox"/> UA Ukraine                                   |
| <input checked="" type="checkbox"/> ID Indonesia                             | <input checked="" type="checkbox"/> UG Uganda                                    |
| <input checked="" type="checkbox"/> IL Israel                                | <input checked="" type="checkbox"/> US United States of America                  |
| <input checked="" type="checkbox"/> IN India                                 | <input checked="" type="checkbox"/> UZ Uzbekistan                                |
| <input checked="" type="checkbox"/> IS Iceland                               | <input checked="" type="checkbox"/> VN Viet Nam                                  |
| <input checked="" type="checkbox"/> JP Japan                                 | <input checked="" type="checkbox"/> YU Yugoslavia                                |
| <input checked="" type="checkbox"/> KE Kenya                                 | <input checked="" type="checkbox"/> ZA South Africa                              |
| <input checked="" type="checkbox"/> KG Kyrgyzstan                            | <input checked="" type="checkbox"/> ZW Zimbabwe                                  |
| <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea |  |
| <input checked="" type="checkbox"/> KR Republic of Korea                     |  |
| <input checked="" type="checkbox"/> KZ Kazakhstan                            |  |

Check-box reserved for designating States which have become party to the PCT after issuance of this sheet:

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

Box No. VI PRIORITY CLAIM		<input type="checkbox"/> Further priority claims are indicated in the Supplement Box.		
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is		
		national application: country	regional application: regional Office	international application: regional Office
item(1) (6 September 1999) (06.09.99)	<del>99</del> -1999-0018866 (Utility Model)			
item(2)				
item(3)				
<input checked="" type="checkbox"/> The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s): <b>ITEM(1)</b>				
<i>* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplementary Box at least one country party to the Paris convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii) See Supplemental Box.</i>				
Box No. VII INTERNATIONAL SEARCHING AUTHORITY				
Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry the international search, indicate the Authority chosen, the two-letter code may be used):		Request to use the results of earlier search; reference to that search (if an earlier search has been carried out or requested from the International Searching Authority):		
ISA/ KR		Date(day/month/year)      Number      Country(or regional Office)		
Box No. VIII CHECK LIST; LANGUAGE OF FILING				
This international application contains the following number of sheets:		This international application is accompanied by the item(s) marked below:		
request : 3		1. <input checked="" type="checkbox"/> fee calculation sheet		
description(excluding sequence listing part) : 9		2. <input checked="" type="checkbox"/> separate signed power of attorney		
claims : 2		3. <input type="checkbox"/> copy of general power of attorney; reference number, if any:		
abstract : 1		4. <input type="checkbox"/> statement explaining lack of signature		
drawings : 6		5. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s)		
sequence listing part of description :		6. <input type="checkbox"/> translation of international application into(language)		
Total number of sheets : 21		7. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material		
		8. <input type="checkbox"/> nucleotide and/or amino acid sequence listing in computer reader form		
		9. <input type="checkbox"/> other(specify) :		
Figure of the drawings which should accompany the abstract: 1		Language of filing of the international application: ENGLISH		
Box No. IX SIGNATURE OF APPLICANT OR AGENT				
Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).				
KIM, Young-Hwa				

1. Date of actual receipt of the purported international application :	2. Drawings:  <input type="checkbox"/> received:  <input type="checkbox"/> not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application :	
4. Date of timely receipt of the required corrections under PCT Article 11(2) :	
5. International Searching Authority (if two or more are competent) : ISA/ KR	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid

Date of receipt of the record copy by the International Bureau:	For International Bureau use only
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This sheet is not part of and does not count as a sheet of the International application.

PCT

FEE CALCULATION SHEET

Annex to the Request

For receiving Office use only

International application No.

Applicant's or agent's  
file reference

2000PCT360

Date stamp of the receiving Office

Applicant

IPLASTIC CO., LTD

CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE

45,000

T

2. SEARCH FEE

150,000

S

International search to be carried out by

KR

(If two or more International Searching Authorities are competent in relation to the international application, indicate the name of the Authority which is chosen to carry out the international search.)

3. INTERNATIONAL FEE

Basic Fee

The international application contains 21 sheets.

first 30 sheets

435,000

b1

x

=

b2

remaining sheets

additional amount

436,000

B

Add amounts entered at b1 and b2 and enter total at B

Designation Fees

The international application contains 87 designations.

8

$638.84 \times 1.05 \times 140 =$

751,300

D

number of designation fees  
payable (maximum 8)

amount of designation fee

1,187,300

I

Add amounts entered at B and D and enter total at I  
(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT (if applicable)

P

5. TOTAL FEES PAYABLE

1,382,300

Add amounts entered at T, S, I and P, and enter total in the TOTAL box

TOTAL

☐ The designation fees are not paid at this time.

MODE OF PAYMENT

☐ authorization to charge  
deposit account (see below)

☐ bank draft

☐ coupons

☐ cheque

☒ cash

☐ other (specify):

☐ postal money order

☐ revenue stamps

DEPOSIT ACCOUNT AUTHORIZATION (this mode of payment may not be available at all receiving Offices)

The RO/ ☐ is hereby authorized to charge the total fees indicated above to my deposit account.

☐

(this check-box may be marked only if the conditions for deposit accounts of the receiving Office so permit) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.

☐

is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

Deposit Account No.

Date (day/month/year)

Signature

# POWER OF ATTORNEY

Agent (Common Representative)

Name : KIM, YOUNG-HWA

Address : RM 101 HWAIN BLDG.  
824-29 YEOKSAM-DONG, KANGNAM-KU  
SEOUL, KOREA

I/We, the undersigned, do hereby appoint the above-identified agent/common representative as my/our agent/common representative to act for me/us in all proceedings concerning the following International Application.

International Application No. :

Title of Invention : BOTTLE CAP

Date SEPTEMBER 4, 2000

Applicant Name : BAE, SHIN-YOUNG



Address : 79-74 2F, Sanbon-Dong,  
Kunpo-Si, Kyougki-Do, 435-040  
Republic of Korea

# POWER OF ATTORNEY

Agent (Common Representative)

Name : KIM, YOUNG-HWA  
Address : RM 101 HWAIN BLDG.  
824-29 YEOKSAM-DONG, KANGNAM-KU  
SEOUL, KOREA

I/We, the undersigned, do hereby appoint the above-identified agent/common representative as my/our agent/common representative to act for me/us in all proceedings concerning the following International Application.

International Application No. :

Title of Invention : BOTTLE CAP

Date SEPTEMBER 4, 2000

Applicant Name : IPLASTIC CO., LTD

(Seal)



Address : 79-74 2F, SANBON-DONG,  
KUNPO-SI, KYOUGKI-DO, 435-040  
REPUBLIC OF KOREA



IPEA/ KR

## CHAPTER II

under Article 31 of the Patent Cooperation Treaty:  
The undersigned requests that the international application specified below be the subject of  
international preliminary examination according to the Patent Cooperation Treaty and  
hereby elects all eligible States(except where otherwise indicates).

For International Preliminary Examining Authority use only	
Identification of IPEA	Date of receipt of DEMAND
<b>Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION</b>	
Applicant's or agent's file reference 2000PCT360	
International application No. PCT/KR00/01014	International filing date(day/month/year) 06 September 2000(06.09.2000)
(earliest)Priority date(day/month/year) 06 September 1999(06.09.1999)	
Title of invention BOTTLE CAP	
<b>Box No. II APPLICANT(S)</b>	
Name and address:(Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.) IPLASTIC CO.,LTD 79-74 2F, Sanbon-Dong, Kunpo-Si, Kyougki-Do, 435-040 Republic of Korea	
Telephone No.: (82 343)393-5378	
Facsimile No.: (82 343)399-2072	
Teleprint No.:	
State(that is, country)of nationality: KR	State(that is, country)of residence: KR
Name and address:(Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.) BAE, Shin-Young 79-74 2F, Sanbon-Dong, Kunpo-Si, Kyougki-Do, 435-040 Republic of Korea	
State(that is, country)of nationality: KR	State(that is, country)of residence: KR
Name and address:(Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.)	
State(that is, country)of nationality:	State(that is, country)of residence:
<input type="checkbox"/> Further applicants are indicated on a continuation sheet.	

## Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.Name and address: (Family name followed by given name; for a legal entity, full official designation.  
The address must include postal code and name of country.)

KIM, Young-Hwa

Rm 101 Hwain Bldg. 824-29 Yeoksam-Dong, Kangnam-Ku,

Seoul, 135-080, Republic of Korea

Telephone No.:

(82 2) 562-4774/6

Facsimile No.:

(82 2) 563-1188

Teleprint No.:

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

## Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION

## Statement concerning amendments:\*

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filedthe description ☐ as originally filed  
☐ as amended under Article 34the claims ☐ as originally filed  
☐ as amended under Article 19 (together with any accompanying statement)  
☐ as amended under Article 34the drawings ☐ as originally filed  
☐ as amended under Article 342. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International preliminary examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 91(d)).  
(This check-box may be marked only where the time limit under Article 19 has not yet expired.)

\* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, when a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International preliminary examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: English

☒ which is the language in which the international application was filed.☐ which is the language of a translation furnished for the purposes of international search.☐ which is the language of publication of the international application.☐ which is the language of a translation (to be) furnished for the purposes of international preliminary examination.

## Box No. V ELECTION OF STATES

The applicant hereby elects all eligible States (that is, all States which have been designated and which are bound by Chapter II of the PCT)

Excluding the following States which the applicant wishes not to elect:

## Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- |   |   |        |
|---|---|--------|
| 1. translation of international application                           | : | sheets |
| 2. amendments under Article 34  | : | sheets |
| 3. copy(or, where required, translation)of amendment under Article 19 | : | sheets |
| 4. copy(or, where required, translation)of Statement under Article 19 | : | sheets |
| 5. letter   | : | sheets |
| 6. other(specify)   | : | sheets |

For International Preliminary  
Examining Authority use only

received	Not received
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

The demand is also accompanied by the item(s) marked below:

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> fee calculation sheet                             | 4. <input type="checkbox"/> statement explaining lack of signature                                  |
| 2. <input type="checkbox"/> separate signed power of attorney                            | 5. <input type="checkbox"/> nucleotide and or amino acid sequence listing in computer readable form |
| 3. <input type="checkbox"/> copy of general power of attorney; reference number, if any: | 6. <input type="checkbox"/> other(specify):   |

## Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs(if such capacity is not obvious from reading the demand).

KIM, Young-Hwa

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b)

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply. ☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCLUDED pursuant to rule 82

For International Bureau use only

Demand received from IPEA on:

# PCT

## CHAPTER II

### FEE CALCULATION SHEET

Annex to the Demand for international preliminary examination

International application No. <b>PCT/KR00/01014</b>	For International Preliminary Examining Authority use only
Applicant's or agent's file reference <b>2000PCT360</b>	Date stamp of the IPEA
Applicant  <b>IPLASTIC CO.,LTD.</b>	
<b>Calculation of prescribed fees</b>	
1. Preliminary examination fee .....	<div style="display: flex; justify-content: space-between; align-items: center;"> <span><b>150,000</b></span> <div style="border: 1px solid black; padding: 2px 5px;">P</div> </div>
2. Handling fee ( <i>Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.</i> ) .....	<div style="display: flex; justify-content: space-between; align-items: center;"> <span><b>166,400</b></span> <div style="border: 1px solid black; padding: 2px 5px;">H</div> </div>
3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box .....	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>316,400</b>  <b>TOTAL</b> </div>
<b>Mode of Payment</b>	
<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> authorization to charge deposit account with the IPEA (see below)         </div> <div> <input checked="" type="checkbox"/> cash         </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> cheque         </div> <div> <input type="checkbox"/> revenue stamps         </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> postal money order         </div> <div> <input type="checkbox"/> coupons         </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> bank draft         </div> <div> <input type="checkbox"/> others(specify):         </div> </div>	
<b>Deposit Account Authorization</b> ( <i>this mode of payment may not be available at all IPEAs</i> )  The IPEA <input type="checkbox"/> is hereby authorized to charge the total fees indicated above to my deposit account.  <div style="display: flex; align-items: center;"> <input type="checkbox"/> <div style="margin-left: 10px;"> <i>(this check-box may be marked only if the conditions for deposit accounts of the IPEA so permit)</i>              is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.           </div> </div>	
Deposit Account Number _____	<div style="display: flex; justify-content: space-between;"> <div>           Date(day/month/year) _____         </div> <div>           signature _____         </div> </div>

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

## PCT

### NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

( PCT Rule 71.1 )

<b>To:</b> KIM, Young Hwa  RM 101., HWAIN BLDG., 824-29, YEOKSAM-DONG, KANGNAM-KU, SEOUL 135-080, REPUBLIC OF KOREA		<b>Date of mailing</b> <i>(day/month/year)</i> 11 JANUARY 2002 (11.01.2002)
<b>Applicant's or agent's file reference</b> 2000PCT360		<b>IMPORTANT NOTIFICATION</b>
<b>International application No.</b> <b>PCT/KR00/01014</b>	<b>International filing date</b> <i>(day/month/year)</i> 06 SEPTEMBER 2000 (06.09.2000)	<b>Priority date</b> <i>(day/months/year)</i> 06 SEPTEMBER 1999 (06.09.1999)
<b>Applicant</b>  IPLASTIC CO., LTD et al		

1. The applicant is hereby notified that International Preliminary Examining Authority transmits here with the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**  
 The applicant must enter the national phase before each elected office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details in the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.



<b>Name and mailing address of the IPEA/KR</b> Korean Intellectual Property Office Government Complex-Daejeon, Dunsan-dong, Seo-gu, Daejeon Metropolitan City 302-701, Republic of Korea  <b>Facsimile No.</b> 82-42-472-7140	<b>Authorized officer</b>  COMMISSIONER  <b>Telephone No.</b> 82-42-481-5210	
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# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2000PCT360	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/KR00/01014</b>	International filing date (day/month/year) 06 SEPTEMBER 2000 (06.09.2000)	Priority date (day/month/year) 06 SEPTEMBER 1999 (06.09.1999)
International Patent Classification (IPC) or national classification and IPC  <b>IPC7 B65D 41/00</b>		
Applicant  IPLASTIC CO., LTD et al		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.  <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consist of a total of _____ sheets.
3.	This report contains indications relating to the following items:  I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand  18 OCTOBER 2000 (18.10.2000)	Date of completion of this report  08 JANUARY 2002 (08.01.2002)
Name and mailing address of the IPEA/KR Korean Intellectual Property Office Government Complex-Daejeon, Dunsan-dong, Seo-gu, Daejeon Metropolitan City 302-701, Republic of Korea  Facsimile No. 82-42-472-7140	Authorized officer  SONG, Seung Hoon  Telephone No. 82-42-481-5461



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR00/01014

## 1. Basis of the report

## 1. With regard to the elements of the international application:\*

☒ the international application as originally filed☒ the description:

pages 1 - 9, 12, as originally filed

pages none, filed with the demand

pages none, filed with the letter of none

☒ the claims:

pages 10 - 11, as originally filed

pages none, as amended (together with any statement) under Article 19

pages none, filed with the demand

pages none, filed with the letter of none

☒ the drawings:

pages 1 - 6, as originally filed

pages none, filed with the demand

pages none, filed with the letter of none

☐ the sequence listing part of the description:

pages, as originally filed

pages, filed with the demand

pages, filed with the letter of

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☒ The amendments have resulted in the cancellation of:☒ the description, pages none☒ the claims, Nos. none☒ the drawings, sheet none5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed," and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR00/01014

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1 - 4	YES
	Claims	none	NO
Inventive step (IS)	Claims	1 - 4	YES
	Claims	none	NO
Industrial applicability (IA)	Claims	1 - 4	YES
	Claims	none	NO

### 2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D1 : US 5,299,701 A

D2 : US 5,285,912 A

D3 : US 3,871,545 A

Documents D1,D2,D3 disclose several types of temper-proof(or rotate-indicating) cap devices, and they are considered to be less effective and less sophisticated than claims 1-4.

Claims 1-4 disclose a more advanced ratchet indicator mechanism than D1.

Therefore, claims 1-4 are considered to be novel, inventive, and industrially applicable.



(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
15 March 2001 (15.03.2001)

PCT

(10) International Publication Number  
**WO 01/17871 A1**

(51) International Patent Classification<sup>7</sup>: **B65D 41/00**

(74) Agent: KIM, Young-Hwa; RM 101, Hwain Bldg., 824-29 Yeoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

(21) International Application Number: PCT/KR00/01014

(22) International Filing Date:  
6 September 2000 (06.09.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
1999/0018866 U 6 September 1999 (06.09.1999) KR

(71) Applicant (for all designated States except US): IPLAS-TIC CO., LTD. [KR/KR]; 79-74 2F, Sanbon-Dong, Kunpo-Si, Kyougki-do 435-040 (KR).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

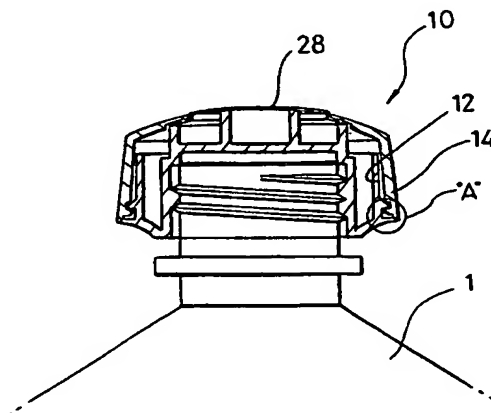
— With international search report.

(72) Inventor; and

(75) Inventor/Applicant (for US only): BAE, Shin-Young [KR/KR]; 79-74 2F, Sanbon-Dong, Kunpo-Si, Kyougki-do 435-040 (KR).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: BOTTLE CAP



(57) Abstract: There is provided a bottle cap configured such that consumers can easily identify the opening or closing of a cap openably installed on the mouth of a liquor bottle. The bottle cap for a bottle which holds contents, includes a cap body having an inner cap coupled so as to open or close the mouth of the bottle, and an outer cap made to rotate in a circumferential direction only and fixedly coupled to the inner cap so as not to deviate from the inner cap, ratcheting means having first and second teeth formed at facing portions of the inner and outer circumferential surfaces of the inner and outer caps and engaged to be movable unidirectionally, and first and second protrusions spaced apart from the ratcheting teeth and protruding from the facing portions of the inner and outer caps, for integrally rotating the inner and outer caps from the mouth of the bottle such that the first and second ratcheting protrusions are engaged with each other when the second ratcheting teeth move relative to the first ratcheting teeth by stages, and opening/closing identification means having a portion of displaying whether the cap body has been opened or not, printed on the top surface of the inner cap, and an identification means formed on the top surface of the outer cap, for identifying from the outside whether the cap body has been opened or not, according to movement of the second ratcheting teeth relative to the first ratcheting teeth.



WO 01/17871 A1

## BOTTLE CAP

## Technical Field

The present invention relates to a bottle cap, and more particularly, to a bottle  
5 cap configured such that consumers can easily identify the opening or closing of a cap  
openably installed on the mouth of a liquor bottle, thereby enhancing the reliability and  
product value of liquors.

## Background Art

10 In general, existing caps for use in liquor bottles are openably configured just  
by opening or closing the mouth of a liquor bottle. Also, in order to verify that the  
liquor bottle has never been unsealed, coating paper, e.g., vinyl, or a label has been  
applied to the outer surface of the liquor bottle cap.

However, a problem associated with the conventional liquor bottle caps is that  
15 liquors contained in unsealed bottles may be deceptively sold to consumers. In other  
words, even if the liquor contained in a liquor bottle capped with a bottle cap that has  
been fraudulently opened is deceptively sold to consumers, the consumers cannot  
perceive that the liquor has been tampered with, which deteriorates the reliability and  
product value of the liquor.

20 As described above, since consumers cannot easily identify the opening or  
closing of a liquor bottle cap, they may often deceptively drink fraudulently bottled  
liquors at a bar or pub.

### Disclosure of the Invention

To solve the above problems, it is an object of the present invention to provide a bottle cap having a portion of displaying whether it has been opened or not, printed on the interior part of the bottle cap, the displaying portion being visible when the bottle cap is opened for the first time, thereby easily identifying whether the bottle cap has been opened or not.

To accomplish the above object of the present invention, there is provided a bottle cap for a bottle which holds contents, including a cap body having an inner cap coupled so as to open or close the mouth of the bottle, and an outer cap made to rotate in a circumferential direction only and fixedly coupled to the inner cap so as not to deviate from the inner cap, ratcheting means having first and second teeth formed at facing portions of the inner and outer circumferential surfaces of the inner and outer caps and engaged to be movable unidirectionally, and first and second protrusions spaced apart from the ratcheting teeth and protruding from the facing portions of the inner and outer caps, for integrally rotating the inner and outer caps from the mouth of the bottle such that the first and second ratcheting protrusions are engaged with each other when the second ratcheting teeth move relative to the first ratcheting teeth by stages, and opening/closing identification means having a portion of displaying whether the cap body has been opened or not, printed on the top surface of the inner cap, and an identification means formed on the top surface of the outer cap, for identifying from the outside whether the cap body has been opened or not, according to movement of the second ratcheting teeth relative to the first ratcheting teeth.

The inner and outer caps may be integrally connected by fixed protrusions and

grooves formed at facing portions of inner and outer circumferential surfaces thereof.

The identification means may include convex portions for covering a display portion and concave portions for uncovering a display portion, the convex and concave portions formed along the periphery of an opening hole opened by perforating a portion  
5 of the top surface of the outer cap, at the same pitch with the ratcheting teeth.

The identification means may be configured such that holes are formed on a portion of the top surface of the outer cap at the same pitch with the ratcheting teeth to uncover the display portion therethrough.

#### 10 Brief Description of the Drawings

The above object and advantages of the present invention will become more apparent by describing in detail a preferred embodiment thereof with reference to the attached drawings in which:

FIG. 1 is a cross-sectional view illustrating the state in which a bottle cap  
15 according to the present invention is mounted;

FIG. 2 is an enlarged view of a portion "A" of FIG. 1;

FIG. 3 is a front view of an inner cap of the bottle cap according to the present invention;

FIG. 4 illustrates the state of the bottle cap according to the present invention  
20 before it is opened from the mouth of a bottle;

FIG. 5 is an enlarged view of a portion "B" of FIG. 4;

FIG. 6 illustrates the state of the bottle cap according to the present invention after it is opened from the mouth of a bottle;

FIG. 7 is an enlarged view of a portion "C" of FIG. 6;

FIG. 8 is a plan view of the bottle cap according to the present invention before it is opened from the mouth of a bottle;

FIG. 9 is a plan view of the bottle cap according to the present invention after  
5 it is opened from the mouth of a bottle; and

FIG. 10 is a plan view illustrating another embodiment of an identification means for identifying whether the bottle cap according to the present invention has been opened or not.

#### 10 Best mode for carrying out the Invention

The present invention will now be described in detail with reference to the accompanying drawings.

FIG. 1 is a cross-sectional view illustrating the state in which a bottle cap according to the present invention is mounted, and FIG. 2 is an enlarged view of a  
15 portion "A" of FIG. 1.

As shown in FIG. 1, a bottle cap 10 according to the present invention includes a cap body. The cap body includes an inner cap 12 coupled so as to open or close the mouth of a bottle 1, and an outer cap 14 fixedly coupled to the inner cap 12 so as to rotate in a circumferential direction only.

20 The inner cap 12 and the outer cap 14 are integrally connected by means of fixed protrusions 16 and grooves 18, as shown in FIG. 2, so that they are not separated once connected.

As shown, the bottle cap 10 according to the present invention includes an

opening/closing identification means of a cap body. The identification means is configured such that an opening/closing display portion 28 on which characters are printed is fixedly connected to the top surface of the inner cap 12 and an opening hole 30 is formed on the top surface of the outer cap 14 so as to identify whether the bottle cap 10 is opened or closed by covering or uncovering the display portion 28. The opening hole 30 will later be described in more detail with reference to FIGS. 8 and 9.

FIG. 3 is a front view of an inner cap of a bottle cap according to the present invention.

As shown in FIG. 3, first ratcheting teeth 20 are provided in the inner cap 12. The first ratcheting teeth 20, provided for preventing reverse rotation, are shaped of ratchets, and will now be described in detail with reference to FIGS. 4 through 7.

FIG. 4 illustrates the state of the bottle cap according to the present invention before it is opened from the mouth of a bottle, FIG. 5 is an enlarged view of a portion "B" of FIG. 4, FIG. 6 illustrates the state of the bottle cap according to the present invention after it is opened from the mouth of a bottle, and FIG. 7 is an enlarged view of a portion "C" of FIG. 6.

As shown in FIGS. 4 through 7, the bottle cap 10 according to the present invention includes ratcheting means. The ratcheting means includes first and second teeth 20 and 22 formed at facing portions of the outer circumferential surface of the inner cap 12 and the inner circumferential surface of the outer cap 14 and engaged so as to be movable unidirectionally. The first and second teeth 20 and 22 are formed so as to slope unidirectionally, thereby preventing reverse rotation.

If the first teeth 20 are formed on the outer circumferential surface of the inner

cap 12, the second teeth 22 are then formed on the inner circumferential surface of the outer cap 14. In such a manner, the first and second teeth 20 and 22 are engaged with each other. The teeth formed on the outer circumferential surface of the inner cap 12 are formed so as to have a tension.

5           Also, first and second ratcheting protrusions 24 and 26 are spaced apart from the ratcheting teeth and protrude from the facing portions of the inner and outer caps 12 and 14. If the first ratcheting protrusions 24 are formed on the outer circumferential surface of the inner cap 12, the second ratcheting protrusions 26 are then formed on the inner circumferential surface of the outer cap 14.

10           As shown, two ratcheting means are symmetrically installed at positions where the cap body is divided into two parts. However, four ratcheting means may be symmetrically installed at positions where the cap body is divided into four parts.

          As shown in FIGS. 4 and 5, before the bottle cap 10 is opened, the first and second ratcheting teeth 20 and 22 are engaged with each other, and the first and second  
15   ratcheting protrusions 24 and 26 are spaced a predetermined distance (d) apart from each other.

          In such a state, if the outer cap 14 is rotated for the purpose of opening the bottle cap 10, the first and second ratcheting teeth 20 and 22 move by stages so that only the outer cap 14 rotates at a predetermined angle during an initial stage. In other  
20   words, while the ratcheting teeth 22 (or 20) formed on the inner cap 12 are subjected to a tension by the ratcheting teeth 20 (or 22) formed on the outer cap 14, they are pressed inwardly and then restored into their original positions, thereby moving by stages.

The rotation angle of the outer cap 14 is preferably  $20^{\circ}$  , more preferably  $10^{\circ}$  . The rotation angle of the outer cap 14 is determined by the lengths of the ratcheting teeth.

As described above, if only the outer cap 14 is rotated by a predetermined  
5 angle, as shown in FIGS. 6 and 7, the first and second ratcheting protrusions 24 and 26 are engaged with each other, so that the inner cap 12 is rotated accordingly. On and after this time, the inner and outer caps 12 and 14 are rotated together all the time.

If the bottle cap 10 is opened in such a manner, the opening or closing thereof can be easily identified by the identification means, which will be described with  
10 reference to FIGS. 8 and 9.

FIG. 8 is a plan view of the bottle cap according to the present invention before it is opened from the mouth of a bottle, and FIG. 9 is a plan view of the bottle cap according to the present invention after it is opened from the mouth of a bottle.

As shown in FIGS. 8 and 9, the bottle cap 10 according to the present  
15 invention includes an opening/closing identification means. The identification means includes an opening hole 30 opened by perforating a portion of the top surface of the outer cap 14, convex portions 32 for covering a display portion and concave portions 34 for uncovering a display portion, the convex and concave portions 32 and 34 formed along the periphery of the opening hole 30 at the same pitch with the ratcheting teeth.  
20 The convex portions 32 and the concave portions 34 may be either opaque or transparent.

FIG. 8 illustrates the state in which characters printed on the display portion 28 (see FIG. 1) fixedly coupled to the top surface of the inner cap 12 is covered by the



convex portions 32 formed along the periphery of the opening hole 30, representing that the bottle cap 10 is not opened.

FIG. 9 illustrates the state in which characters printed on the display portion 28 (see FIG. 1) fixedly coupled to the top surface of the inner cap 12 is visible through the concave portions 34 formed along the periphery of the opening hole 30, representing that the bottle cap 10 is opened. In FIG. 8, the characters visible through the concave portions 34 are **OPEN**, but are not limited thereto.

FIG. 10 is a plan view illustrating another embodiment of the opening/closing identification means of the bottle cap according to the present invention.

As shown in FIG. 10, the opening/closing identification means of the cap body includes holes 36 formed on a portion of the top surface of the outer cap 14 at the same pitch with the ratcheting teeth, thereby identifying whether the bottle cap 10 is opened or closed such that the display portion 28 is visible through the holes 36 when the outer cap 14 is rotated by a predetermined angle. All the components other than the identification means are the same as those of the above-described embodiment.

Also, it is possible to prevent foreign matter such as dust from being induced by installing transparent glass on the holes 36. Further, characters printed on the display portion 28 can be more clearly identified by installing reading glasses or magnifying glasses using convex lenses.

#### Industrial Applicability

As described above, according to the bottle cap of the present invention, an outer cap and an inner cap are made to race by a predetermined angle only when the

bottle cap is opened for the first time, and characters printed on a display portion are visible so as to easily identify the opening or closing of the bottle cap, thereby enhancing the reliability and product value of contents contained in the bottle. The bottle caps according to the present invention can be most effectively applied to liquor  
5 bottles.

What is claimed is:

1. A bottle cap for a bottle which holds contents, comprising:

a cap body having an inner cap coupled so as to open or close the mouth of the bottle, and an outer cap made to rotate in a circumferential direction only and fixedly  
5 coupled to the inner cap so as not to deviate from the inner cap;

ratcheting means having first and second teeth formed at facing portions of the inner and outer circumferential surfaces of the inner and outer caps and engaged to be movable unidirectionally, and first and second protrusions spaced apart from the ratcheting teeth and protruding from the facing portions of the inner and outer caps, for  
10 integrally rotating the inner and outer caps from the mouth of the bottle such that the first and second ratcheting protrusions are engaged with each other when the second ratcheting teeth move relative to the first ratcheting teeth by stages; and

opening/closing identification means having a portion of displaying whether the cap body has been opened or not, printed on the top surface of the inner cap, and an  
15 identification means formed on the top surface of the outer cap, for identifying from the outside whether the cap body has been opened or not according to movement of the second ratcheting teeth relative to the first ratcheting teeth.

2. The bottle cap according to claim 1, wherein the inner and outer caps  
20 are integrally connected by fixed protrusions and grooves formed at facing portions of inner and outer circumferential surfaces thereof.

3. The bottle cap according to claim 1, wherein the identification means

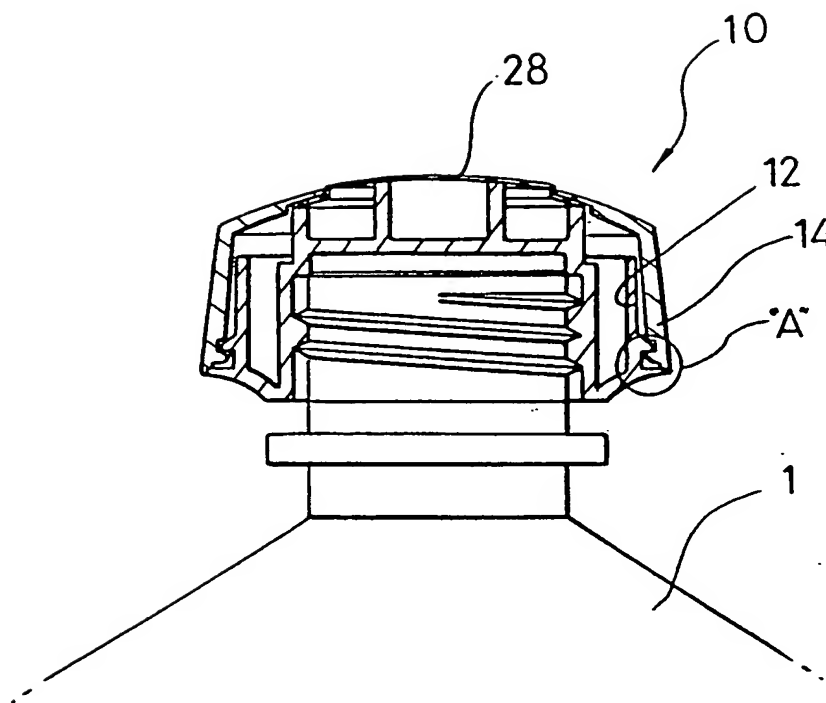
includes convex portions for covering a display portion and concave portions for uncovering a display portion, the convex and concave portions formed along the periphery of an opening hole opened by perforating a portion of the top surface of the outer cap, at the same pitch with the ratcheting teeth.

5

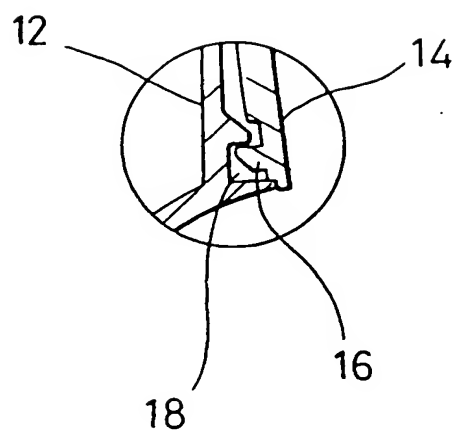
4. The bottle cap according to claim 1, wherein the identification means is configured such that holes are formed on a portion of the top surface of the outer cap at the same pitch with the ratcheting teeth to uncover the display portion therethrough.

10

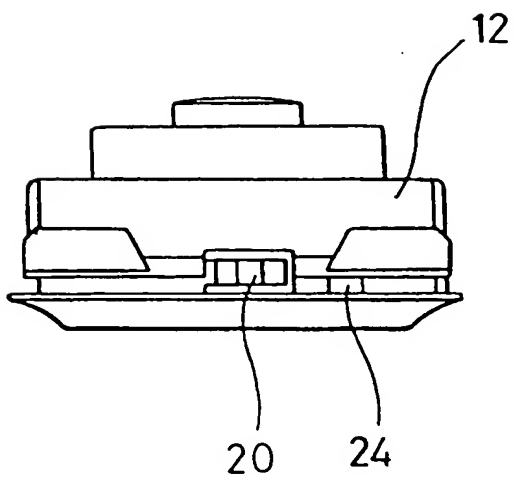
1/6

**FIG. 1**

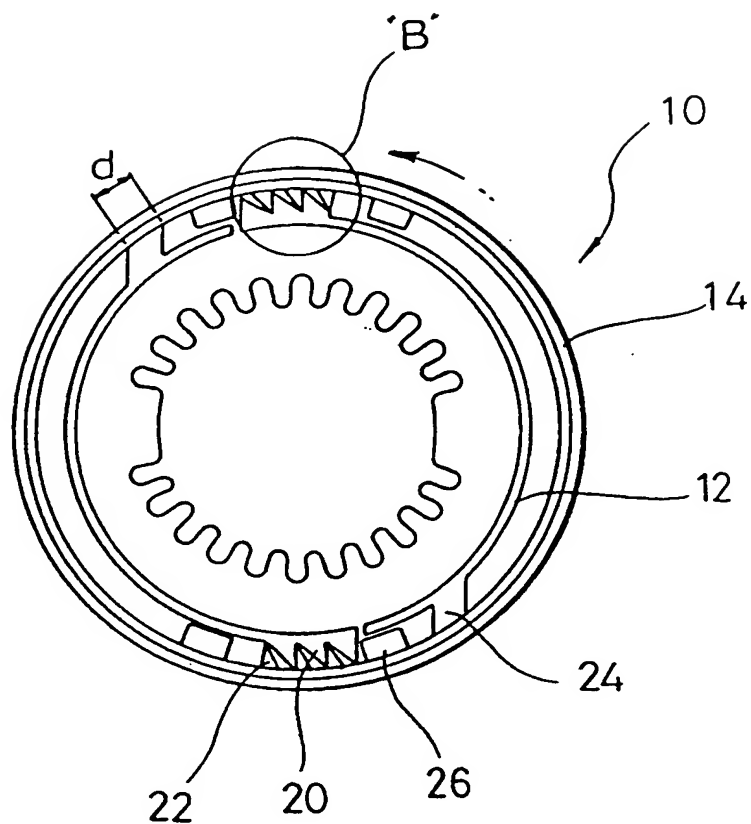
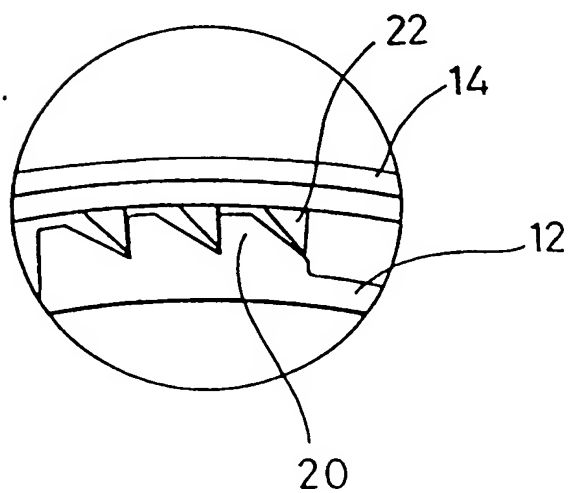
2/6  
**FIG. 2**



**FIG. 3**



3/6

**FIG. 4****FIG. 5**

4/6

FIG. 6

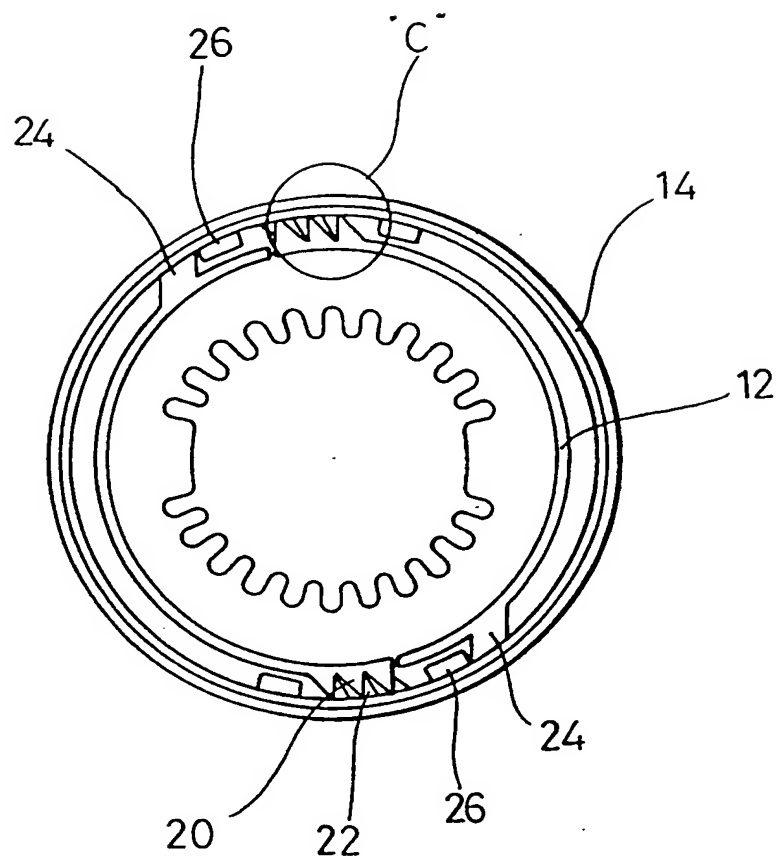
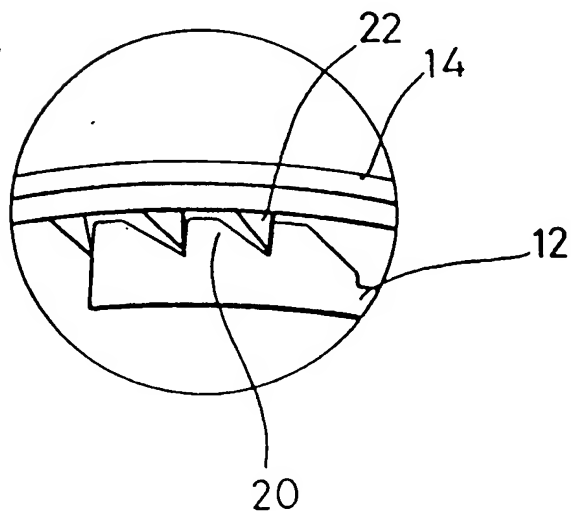


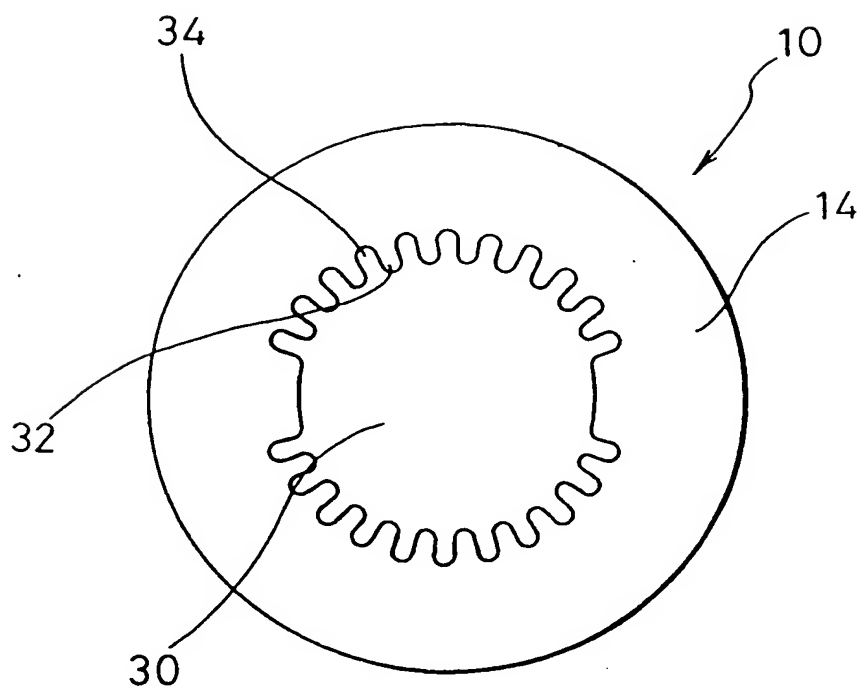
FIG. 7



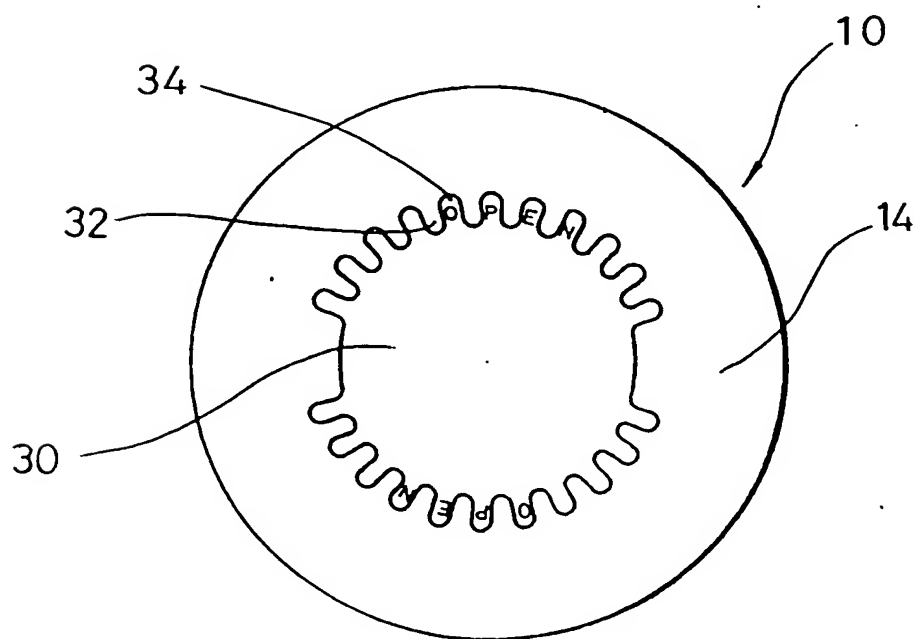


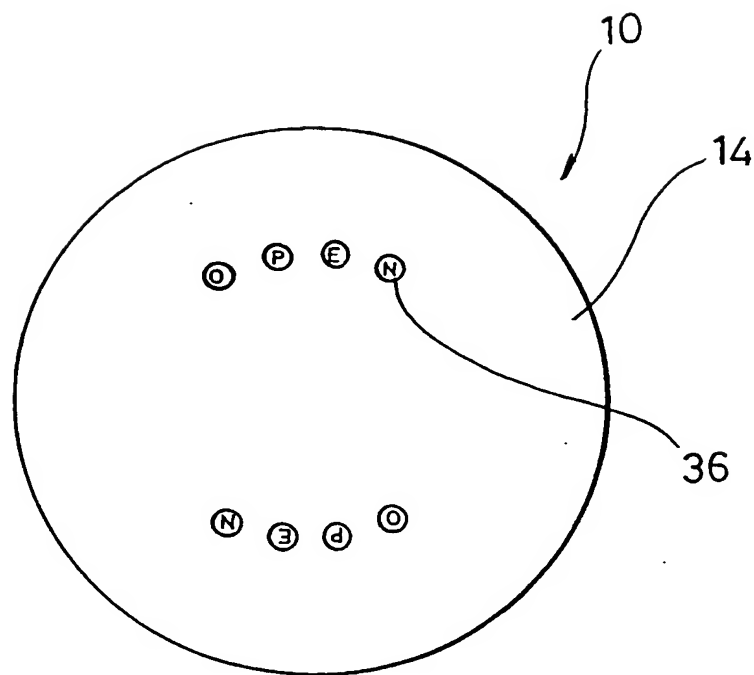
5/6

**FIG.8**



**FIG.9**



6 / 6  
**FIG.10**

## INTERNATIONAL SEARCH REPORT

international application No  
PCT/KR00/01014**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 B65D 41/00**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC7 B65D 1/02, 41/12, 55/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KR,JP : IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
ESPACENET and IBM patent search "ratchet", "wine", "cap", "temper-proof/evident"**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	US 5,299,701 A (Allen Barker;Gage Garby) Apr. 5, 1994 See the whole document and Fig 1,2	1 - 4
A	US 5,285,912 A (Luca Molinaro, New Castle, Pa.) Feb. 15, 1994 See the whole document and Fig 1-5	1 - 4
A	US 3,871,545 A (Andre Bereziat, Ecully, France) Mar. 18, 1975 See the whole document and Fig 1-6	1 - 4

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

\* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
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- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

20 DECEMBER 2000 (20.12.2000)

Date of mailing of the international search report

21 DECEMBER 2000 (21.12.2000)

Name and mailing address of the ISA/KR

Korean Industrial Property Office  
Government Complex-Taejon, Dunsan-dong, So-ku, Taejon  
Metropolitan City 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

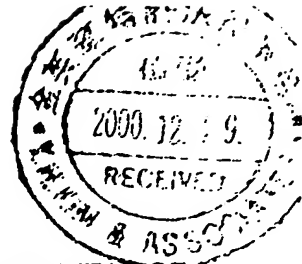
Authorized officer

SONO, Seung Hoon

Telephone No. 82-42-481-5461



# INTERNATIONAL COOPERATION TREATY



From the INTERNATIONAL SEARCHING AUTHORITY

To:

KIM, Young Ilwa

RM 101., HWAIN BLDG., 824-29, YEOKSAM-DONG,  
KANGNAM-KU, SEOUL 135-080, REPUBLIC OF KOREA

**PCT**

## NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing (day/month/year) 22 DECEMBER 2000 (22.12.2000)	
Applicant's or agent's file reference 2000PCT360	<b>FOR FURTHER ACTION</b> See paragraphs 1 and 4 below
International application No. <b>PCT/KR00/01014</b>	International filing date (day/month/year) 06 SEPTEMBER 2000 (06.09.2000)
Applicant IPLASTIC CO., LTD et al	

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

### Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO

34, chemin des Colombettes

1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:  
☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the ISA/KR

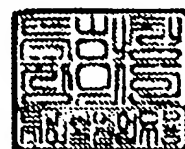
Korean Industrial Property Office  
Government Complex-Taejon, Dunsan-dong, So-ku, Taejon  
Metropolitan City 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

COMMISSIONER

Telephone No. 82-42-481-5131



# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 2000PCT360	<b>FOR FURTHER ACTION</b> <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. <b>PCT/KR00/01014</b>	International filing date (day/month/year) 06 SEPTEMBER 2000 (06.09.2000)	(Earliest) Priority Date (day/month/year) 06 SEPTEMBER 1999 (06.09.1999)
Applicant  IPLASTIC CO., LTD et al		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawing to be published with the abstract is Figure No. 1

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

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IPC7 B65D 41/00

According to International Patent Classification (IPC) or to both national classification and IPC

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ESPACENT and IBM patent search "ratchet", "wine", "cap", "temper-proof/evident"**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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"&amp;" document member of the same patent family

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Metropolitan City 302-701, Republic of Korea

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Authorized officer

SONG, Seung Hoon

Telephone No. 82-42-481-5461

